

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

- 
1. (currently amended): A training system for teaching the use of night vision goggles comprising:
- a. a pair of simulated night vision goggles;
  - b. a an image generation system generating three separate  
5 high fidelity, infrared, computer radiated terrain simulation images, wherein said  
image generation system includes a graphics generator, and wherein said  
image generation system is separate from said pair of simulated night vision  
goggles providing off-helmet image generation;
  - c. a second system in communication with said image  
10 generation system including weighted neutral density filters that optically  
combine the output outputs of three 12-bit video signals said three infrared  
computer radiated terrain images and said second system providing sufficient  
irradiance to an image intensifier tube to simulate direct viewing of bright lights;  
and
  - d. a third system for scan converting a resulting image  
15 generated at the output of said image intensifier tube for display on said  
simulated goggles including a high-resolution video camera to preserve the  
resolution and dynamic range of said image.
2. (canceled)
3. (currently amended): The training system in accordance with claim 1 including a said third system for scan converting said resulting image

generated at the output of said image intensifier tube for projecting said image on a display screen using said high-resolution video camera.

4. (currently amended): The training system in accordance with claim 1 wherein said ~~communication~~ second system includes:

5 a an allocation system allocating each of said three ~~12-bit video~~ signals infrared computer radiated terrain images to a preselected portion or all of the total irradiance range representing scene elements of low, medium and high light intensity.

5. (currently amended): The training system in accordance with claim 1 including a head tracking system for providing a stable image to said graphics generator of said image generation system regardless of the simulated night vision goggle line of sight.

6. (currently amended): The training system in accordance with claim 1 wherein said ~~signal image generation system and communication systems~~ and said second system are provided in a light tight package to maintain contrast, wherein said light tight package includes light baffles and optical coatings, and wherein said light tight package is separate from said simulated goggles.

7. (currently amended): A training system for teaching the use of night vision goggles comprising:

- a. a pair of simulated night vision goggles;
- 5 b. a an image generation system generating high fidelity, infrared, terrain simulation images and providing three separate 12-bit video signals as inputs, wherein said system is separate from said simulated goggles;
- c. a second system in communication with said image generation system including weighted neutral density filters that optically

combine the ~~output~~ outputs of ~~three computer radiated terrain images~~ said three  
10 12-bit video signals and said second system providing sufficient irradiance to an  
image intensifier tube to simulate the entire range of natural nighttime terrain  
irradiance including bright lights; and

d. a third system for scan converting a resulting image  
generated at the output of said image intensifier tube for display on said  
15 simulated goggles including a high-resolution video camera to preserve the  
resolution and dynamic range of said image.

8. (canceled)

9. (currently amended): A training system in accordance with  
claim 7 including a said third system for scan converting said resulting image  
generated at the output of said image intensifier tube and projecting said image  
on a display screen using said high-resolution video camera.

10. (currently amended): A training system in accordance with  
claim 7 wherein said communication system includes:

a an allocation system allocating each output of said three  
~~computer radiated terrain images~~ 12-bit video signals to a preselected portion  
5 or all of the total irradiance range representing scene elements of low, medium  
and high light intensity.


11. (currently amended): A training system in accordance with  
claim 7 including a head tracking system for providing a stable image regardless  
of the simulated night vision goggle line of sight.

12. (currently amended): A training system for teaching the use  
of night vision goggles comprising:

a. a pair of simulated night vision goggles;


b. a an image generation system generating three separate  
5 high fidelity, infrared, computer radiated terrain simulation images and providing  
three separate 12-bit video signals as inputs, wherein said image generation  
system includes a graphics generator, and wherein said image generation  
system is separate from said pair of simulated night vision goggles providing off-  
helmet image generation;

10 c. a second system in communication with said image  
generation system including weighted neutral density filters that optically  
combine the ~~output~~ outputs of said three 12-bit video signals and said second  
system providing sufficient irradiance to an image intensifier tube to increase  
the dynamic range needed to reproduce effects to simulate direct viewing of  
15 bright lights,

 said ~~communication~~ second system including a an allocation  
system allocating each output of said three 12-bit video signals to a preselected  
portion or all of the total irradiance range representing scene elements of low,  
medium and high light intensity; ~~and~~

20 d. a high-resolution video camera for scan converting the  
resultant image at the output of said image intensifier tube to preserve its  
resolution and dynamic range and to display said image on said simulated  
goggles; and

e. a head tracking system for providing a stable image  
25 regardless of the simulated night vision goggle line of sight;

 said ~~signal~~ image generation system and ~~communication systems~~  
said second system are provided in a light tight package to maintain contrast.

13. (canceled)

14. (currently amended): A training system in accordance with  
Claim 12 ~~wherein said scan converting system includes:~~ including a video

system ~~video~~ displaying the resultant image generated at the output of said image intensifier tube on a display server.

15. (currently amended): A method for simulating night vision as seen through a pair of goggles comprising the steps of:

- a. providing a pair of simulated night vision goggles,
- b. generating a three separate high fidelity, infrared, computer radiated terrain simulation images off-helmet separate from said simulated goggles viewable in said goggles,
- c. optically combining the ~~output~~ outputs of said three computer radiated terrain images through weighted neutral density filters;
- d. simulating the entire range of natural night time terrain irradiance including bright lights using said three computer radiated terrain images ~~three 12-bit video signals~~, and
- e. scan converting the resultant image generated to video for display through said simulated goggles.

16. (currently amended): The method of claim 15 wherein said scan conversion includes the steps of:

- a. allocating each output of said three ~~12-bit video signals~~ infrared computer radiated terrain images to a preselected portion of the total irradiance range representing scenic elements of low, medium and high light intensity,
- b. scanning the converted image to preserve its resolution and dynamic range.

17. (original): The method of Claim 16 including the step of:  
rendering the generated image stable regardless of the simulated night vision line of sight.

- B1
- cont.
18. (original): The method of Claim 17 including the step of:  
maintaining contrast of said generated image.
  19. (original): The method of Claim 18 including the step of:  
maintaining the contrast of said generated image by providing the  
generating image in a light tight package.
  20. (original): The method of Claim 15 including the step of:  
rendering the generated image stable regardless of the simulated  
night vision line of sight.
  21. (original): The method of Claim 15 including the step of:  
maintaining contrast of said generated image.
  22. (original): The method of Claim 21 including the step of:  
maintaining the contrast of said generated image by providing the  
generating image in a light tight package.
-